



Photo courtesy The Claude Moore Health Sciences Library, University of Virginia

Army Transforming America

Taking a Bite Out of Disease

ONE of the world's most historic and heroic endeavors, the Panama Canal, owes its successful construction not just to a cadre of exacting engineers. It is also indebted to the tenacity of an Army doctor with a hunch about the link between mosquitoes and a deadly tropical disease, yellow fever.

The Army's keen interest in yellow fever at the turn of the 20th century stemmed from its experience in the Spanish-American War, in which disease felled more soldiers than did bullets. In 1900 the disease known as the "black vomit" killed between 40 and 85 percent of those infected in the United States.

Spearheading an inquiry at Columbia Barracks outside Havana, Cuba, MAJ Walter Reed conducted meticulously controlled studies into the disease's transmission and explored the hypothesis that it was insect-borne. With the help of soldiers who volunteered to be bitten by infected mosquitoes, Reed conclusively proved his case. Soon, COL William Gorgas, in Panama, used Reed's pioneering research to combat yellow fever and malaria. His guidance allowed canal officials to devise effective counter-measures that preserved their workers' health, thereby ensuring the success of the American canal enterprise.

These, of course, are only two examples of how military medicine has influenced health practices in America and the world. During the Revolution, the Army conducted the first large-scale immunizations of its soldiers for smallpox, setting a standard for civilian communities to follow. Later, MAJ Carl Darnall devised a way to chlorinate drinking water. MAJ Frederick Russell introduced antityphoid vaccinations. And CPT Fernando Rodriguez isolated the bacteria found in cavities, laying the basis for modern preventive dentistry. Army physicians also tested the first methods for whole-blood preservation and developed kits for the closed, sterile collection of blood.

While these breakthroughs provide mere glimpses of the impact of military medicine upon American society, the most notable arguably remains the war against yellow fever. Because soldiers volunteered to risk their lives to detect a way to conquer a devastating tropical disease, generations of Americans have lived normal, vigorous lives free of worry about the outbreak of a sudden, deadly yellow-fever epidemic. — *CPT Patrick Swan*